ESO 998

2/83

FARM BUSINESS MANAGEMENT

COMPUTERIZED PLANNING FOR SWINE FARMS

ENTERPRISE SELECTION

SIZE AND GROWTH

BUILDING TYPE

SCHEDULING

INPUT FORM AND INSTRUCTIONS

Prepared by: A. E. Lines, Ohio State University
D. H. Bache, Purdue University
J. E. Kadlec, Purdue University

Your Name_____

Your Address_____

City_____State_____Zip_____

Your Telephone Number_____Date_____

Mail Completed Form To:

Dr. Allan E. Lines
Department of Agricultural Economics
and Rural Sociology
The Ohio State University
2120 Fyffe Road
Columbus, Ohio 43210
(614) 422-2821

Table of Contents

Table of Contents (continued)

Introduction

This swine farm computer model was developed to assist farmers in making and evaluating long-range plans concerning the organization and growth of their swine enterprise. Corn and soybean production is an integral part of the model. Cropping decisions are kept to a minimum, however, since the primary emphasis is the swine enterprise. The model is designed to help answer four basic problems that every swine farmer is faced with:

1. How many hogs should I produce?
2. What type of buildings and other production methods should I use?
3. What farrowing or feeding schedule should I follow?
4. What should I produce--finished hogs or feeder pigs?

You can use the model as an aid in finding answers to more specific questions. Some such questions are:

1. Should I expand my swine or crop enterprise?
2. How many sows should I farrow?
3. What type of swine housing should I build?
4. Can I finance this change in my swine enterprise?
5. How many times should I farrow each year?
6. How much additional labor will I need if I expand the swine enterprise?

You can also use the model to help answer the "what if" type questions that every producer asks. Some such questions are:

What if --

1. I add fifty sows?
2. I rent or purchase an additional 160 acres?
3. I build a new farrowing house?

4. I farrow eight times per year rather than six?

5. I farrow instead of purchasing feeder pigs?

The model is designed so that you can compare the continuation of your present plan with as many as two alternative plans for the next five years. You are asked to describe your present operation first; this information will be recorded on the white sheets in this packet. These data are used by the computer to project a five-year plan with no growth in your business. Secondly, you are asked to describe in detail your first alternative (you will use the green sheets for this). For the alternative plan, you must specify the following:

1. What you will produce
2. Your farrowing or purchasing schedule
3. The type of buildings you will construct
4. Growth of swine enterprise

Thirdly, you are asked to decide upon your second alternative, if you want one and to record your data on the yellow sheets. You have two options in using the second alternative. You may use it in the same way as the first where you specified everything including when and at what rate your swine enterprise grew. If you so desire, you may use the second alternative to allow the computer to choose a "Good Plan" for your farm. In this case, the computer will decide the following for you:

1. What to produce.
    a. feeder pigs
    b. farrow-finish hogs
    c. purchased feeder pigs
2. When to farrow or purchase feeders.

3. What type of buildings to construct.

4. The size and rate of growth of your swine enterprise.

When you use this option, the size and rate of growth of the swine enterpise are determined by the availability of resources. Given your resources and restrictions on labor, capital, and growth, the computer will choose a plan which will give a high net worth at the end of five years.

The objective of the model, conditions to be specified, decisions to be made, and information provided by the computer are summarized in Figure 1 on the next page.

Steps For Using This Model

1. Decide what you want the model to do.
2. Decide what computer printout you want.
3. Describe your present operation.
4. Make any changes you want for Alternative 1 (green pages).
5. Make any changes you want for Alternative 2 (yellow pages).

In most instances, "base figures" are provided as guides. If estimates for your farm are the same as these figures, you should leave that space for your plan blank. Write in only those numbers that you want to change.

Figure 1.

Model Purpose -- To aid farmers in making, comparing, and evaluating long-range plans for their swine enterprise.

Conditions Specified By The Farmer

1. Current Resources
   - a Land
   - b. Labor
   - c. Buildings
   - d. Livestock
   - e Machinery
   - f. Other
2. Current Liabilities
3. Management Ability
   - a. Feed Conversion
   - b. Labor Efficiency
   - c. Litter Size
   - d. Mortality
   - e. Cash Costs
   - f. Maximum Size
   - g. Prices
   - h. Crop Yields
   - i. Labor Supply
4. Risk Preference
   - a. Maximum Debt/Asset Ratio
   - b. Maximum Short-Term Debt
   - c. Maximum Intermediate Debt
   - d. Maximum Long-Term Debt
5. Cropping System
6. Living Expenses

Decisions To Be Made By The Farmer or The Model

1. What to Produce
   - a. Produce Feeder Pigs
   - b. Purchased Feeder Pigs
   - c. Farrow and Finish Hogs
2. How Many Hogs to Produce
   - a. Maximum Number of Sows or Feeders
   - b. Number Added Each Year
3. When to Produce
   - a. Management System
     - (1) 1-litter
     - (2) 2-litter
     - (3) 4-litter
     - (4) 6-litter
     - (5) 8-litter
     - (6) 12-litter
     - (7) 1-lot of feeders
     - (8) 2-lots of feeders
     - (9) 3-lots of feeders
     - (10) Buy feeders bi-monthly
     - (11) Buy feeders monthly
   - b. Farrowing or Purchasing Schedule
4. What Building System
   - a. Portable on Pasture
   - b. Drylot
   - c. Partial Slot
   - d. Total Slot

Computer Model

Plans and Information Provided by the Computer

Annually

1. Acres of Crops
2. Number of Sows
3. Swine Housing Constructed
4. Farrowing or Purchasing Schedule
5. Net Worth
6. Percent Debt
7. New Loans
8. Loan Payments

Bi-Weekly

1. Crop Production, Sales & Use
2. Swine Sales and Purchases
3. Crop Labor
4. Hog Labor
5. Labor Hired
6. Crop Receipts and Expenses
7. Swine Receipts and Expenses
8. Cash Balance

Problem Identification

Write a brief statement of the problem you are trying to solve.

EXAMPLE: My son is graduating and wants to stay home and farm. Can our swine enterprise be expanded to support another family?

What do you want the computer to do?

Put an X beside the option you want. (Select only 1 option)

Option			Your Selection
Number	Cost	Description	
1	$15	Budget my current operation and one alternative.	
2	$30	Budget my current operation and two alternatives.	
3	$40	Budget my current operation and one alternative and find a "Good Plan" for my farm.	

How much computer printout do you want?

Put an X beside the option you want. (Select only 1 option)

Option			Your Selection
Number	Pages	Description	
1	5	Only the comparison of plans	
2	36	Comparison of plans and annual detail for Alternative 1.	
3	69	Comparison of plans and annual detail for Alternatives 1 & 2.	

DO NOT WRITE ON THIS PAGE

The following blanks are used to control the manner in which the computer program will process the information for your farm.

These are the first cards to be punched for each plan.

	Parameter Cards For Present Plan			Parameter Cards For Alternative 1		Parameter Cards For Alternative 2	
	1	2	3	1	2	1	2
	____(1)	__1__(1)	__1__(1)	__1__(1)	__1__(1)	____(1)	____(1)
	____(2)	____(2)	____(2)	____(2)	____(2)	____(2)	____(2)
Cell 1 = Budget option from page 5		____(3)	____(3)	____(3)	____(3)	____(3)	____(3)
		__1__(4)	____(4)	__1__(4)	____(4)	____(4)	____(4)
Cell 2 = Printout option from page 5		____(5)	____(5)	____(5)	____(5)	____(5)	____(5)
		__1__(6)	____(6)	__1__(6)	____(6)	____(6)	____(6)
		____(7)	__1__(7)	____(7)	__1__(7)	____(7)	____(7)
		____(8)	____(8)	____(8)	____(8)	____(8)	____(8)
		____(9)	__1__(9)	____(9)	__1__(9)	____(9)	____(9)
		____(10)	____(10)	____(10)	____(10)	____(10)	____(10)
		↑		↑		↑	
		(Cell 3 from page 35)		(Cells 3,7,8,9,10 from page 37)		If using budgeting mode: card 1 cells 1,4,6 = 1 cells 3,7,8, 9,10 from p. 39 card 2 cells 1,7,9 = 1	
						If using optimizing mode: card 1 cell 4 = 1 card 2 cells 1,7,9 = 1	

Swine Production Decisions

This is the most important part of the input form. An attempt has been made to make the computer model flexible enough to allow you to specify in considerable detail the situations you wish to examine. You will have the opportunity to change many of the coefficients which are currently in the model. You may choose which of the systems you wish to consider and you will have the option of limiting the rate of growth if you so desire.

Most of the data (base figures) currently in the model are based on Purdue swine research. Much of the data was developed in projects undertaken jointly by the Deparments of Agricultural Engineering, Animal Sciences, Agricultural Economics and Veterinary Science. The results of many of these research projects are reported in a number of research bulletins, theses, and research progress reports. Much of this data is summarized in Planning Data for Hog Farms, EC-408. Purdue Agricultural Experiment Station, 1971. The economic data in this input form has been updated in light of current economic conditions.

Information for Completing Page 9.

1/ Circle the appropriate number for each swine building on your farm. See Table 1 at bottom of this page.

Job Performed	Description of Housing	Type
Farrowing	Individual on pasture (1-litter)	1
	Centralized individual - slotted porch	2
	Solid floor with crates	3
	Slotted floor with crates	4
Sow Maintenance	Portable on pasture	2
	Open shelter - drylot	3
	Open shelter - partial slot	4
	Enclosed - total slot	5
Nursery	Portable buildings	5
	Open shelter - drylot	6
	Enclosed - total slot	7
Finishing	Portable on pasture	2
	Open shelter - drylot	3
	Open shelter - partial slot	4
	Enclosed - total slot	5

2/ Indicate when you expect a building to require replacement or remodeling. The last year of use is the year before replacement year.

Example:

Table 1. Example Table for Hog Buildings.

Building Type		Replacement Year	Capacity
Farrowing Buildings			
1 2 3 4	1	1986	20
1 2 3 4	1	1988	30
Sow Maintenance Buildings			
2 3 4 5	2	1991	50
2 3 4 5	2	1989	40
Nursery Buildings			
5 6 7	3	1993	450
5 6 7	3	1990	100
Finishing Buildings			
2 3 4 5	4	1985	300
2 3 4 5	4	1989	200

3/ Indicate the capacity of buildings in the following units:

Farrowing Buildings - number of sows Nursery - number of weanlings
Sow Maintenance - number of sows Finishing - number of market hogs

I. BEGINNING INVENTORY OF SWINE AND SWINE BUILDINGS.

List below the buildings you have available for hog production and number of sows, gilts, and feeders you currently have.

A. Swine Buildings You Now Have (See example on opposite page)

NO CARD NUMBER NEEDED

Building Type[1]		Replacement Year[2]	Capacity[3]
Farrowing			
1.2.3.4.	1.	.	.
1.2.3.4.	1.	.	.
1.2.3.4.	1.	.	.
1.2.3.4.	1.	.	.
Sow Maintenance			
2.3.4.5.	2.	.	.
2.3.4.5.	2.	.	.
2.3.4.5.	2.	.	.
2.3.4.5.	2.	.	.
Nursery			
5.6.7.	3.	.	.
5.6.7.	3.	.	.
5.6.7.	3.	.	.
5.6.7.	3.	.	.
Finishing			
2.3.4.5.	4.	.	.
2.3.4.5.	4.	.	.
2.3.4.5.	4.	.	.
2.3.4.5.	4.	.	.
2.3.4.5.	4.	.	.
2.3.4.5.	4.	.	.
2.3.4.5.	4.	.	.

LIST ONLY THOSE BUILDINGS THAT NOW EXIST

DO NOT LIST BUILDINGS TO BE CONSTRUCTED

B. Swine Inventory

NO CARD # NEEDED

Field 1	Field 2	Field 3	Number	
1.	27.	0.	.	Sows & Gilts
3.	27.	0.	.	Pigs in Finishing Buildings

Information for Completing Page 11.

1/ Use this page to describe the hog buildings you will have available for Alternative 1.

Some reasons that this listing might be different from that on page 9 are:

1. You may want to investigate the possibility of changing the use of some of your current buildings. For example, you may want to know the result of changing your present finishing barn to a gestation barn. In this case, your finishing barn would be listed here as sow maintenance quarters.

2. You might want to know the result of leaving some of your present facilities idle and building newer more efficient buildings. If this is the case, you won't list here the building that you are wanting to abandon.

2/ For each building, circle the appropriate number, year it will be replaced, and indicate the capacity. Use the table below to find the appropriate number to circle.

Job Performed	Description of Housing	Type
Farrowing	Individual on pasture (1-litter)	1
	Centralized individual - slotted porch	2
	Solid floor with crates	3
	Slotted floor with crates	4
Sow Maintenance	Portable on pasture	2
	Open shelter - drylot	3
	Open shelter - partial slot	4
	Enclosed - total slot	5
Nursery	Portable buildings	5
	Open shelter - drylot	6
	Enclosed - total slot	7
Finishing	Portable on pasture	2
	Open shelter - drylot	3
	Open shelter - partial slot	4
	Enclosed - total slot	5

LIST BELOW THE SWINE BUILDINGS YOU WILL HAVE AVAILABLE FOR

ALTERNATIVE 1.[1]

A. Swine Building [2]

	Building Type		Replacement Year	Capacity	
NO CARD NUMBER NEEDED	Farrowing				
	1.2.3.4.	1.	.	.	
	1.2.3.4.	1.	.	.	
	1.2.3.4.	1.	.	.	
	1.2.3.4.	1.	.	.	
	Sow Maintenance				
	2.3.4.5.	2.	.	.	LIST ONLY THOSE BUILDINGS THAT NOW EXIST
	2.3.4.5.	2.	.	.	
	2.3.4.5.	2.	.	.	
	2.3.4.5.	2.	.	.	
	Nursery				
	5.6.7.	3.	.	.	
	5.6.7.	3.	.	.	
	5.6.7.	3.	.	.	DO NOT LIST BUILDINGS TO BE CONSTRUCTED
	5.6.7.	3.	.	.	
	Finishing				
	2.3.4.5.	4.	.	.	
	2.3.4.5.	4.	.	.	
	2.3.4.5.	4.	.	.	
	2.3.4.5.	4.	.	.	
	2.3.4.5.	4.	.	.	
	2.3.4.5.	4.	.	.	
	2.3.4.5.	4.	.	.	
	Field 1	Field 2	Field 3	Field 4	

Information for Completing Page 13.

1/ Use this page to describe the hog buildings you will have available for either Alternative 2 or the computer selected plan.

Some reasons that this listing might be different from that on page 9 are:

1. You may want to investigate the possibility of changing the use of some of your current buildings. For example, you may want to know the result of changing your present finishing barn to a gestation barn. In this case, your finishing barn would be listed here as sow maintenance quarters.

2. You might want to know the result of leaving some of your present facilities idle and building newer more efficient buildings. If this is the case, you won't list here the building that you are wanting to abandon.

2/ For each building, circle the appropriate number, year it will be replaced, and indicate the capacity. Use the table below to find the appropriate number to circle.

Job Performed	Description of Housing	Type
Farrowing	Individual on pasture (1-litter)	1
	Centralized individual - slotted porch	2
	Solid floor with crates	3
	Slotted floor with crates	4
Sow Maintenance	Portable on pasture	2
	Open shelter - drylot	3
	Open shelter - partial slot	4
	Enclosed - total slot	5
Nursery	Portable buildings	5
	Open shelter - drylot	6
	Enclosed - total slot	7
Finishing	Portable on pasture	2
	Open shelter - drylot	3
	Open shelter - partial slot	4
	Enclosed - total slot	5

LIST BELOW THE SWINE BUILDINGS YOU WILL HAVE AVAILABLE FOR ALTERNATIVE 2 OR THE COMPUTER SELECTED PLAN.[1/]

A. Swine Building [2/]

	Building Type		Replacement Year	Capacity	
NO CARD NUMBER NEEDED	Farrowing				
	1.2.3.4.	1.	.	.	
	1.2.3.4.	1.	.	.	
	1.2.3.4.	1.	.	.	
	1.2.3.4.	1.	.	.	
	Sow Maintenance				
	2.3.4.5.	2.	.	.	LIST ONLY THOSE BUILDINGS THAT NOW EXIST
	2.3.4.5.	2.	.	.	
	2.3.4.5.	2.	.	.	
	2.3.4.5.	2.	.	.	
	Nursery				
	5.6.7.	3.	.	.	
	5.6.7.	3.	.	.	
	5.6.7.	3.	.	.	DO NOT LIST BUILDINGS TO BE CONSTRUCTED
	5.6.7.	3.	.	.	
	Finishing				
	2.3.4.5.	4.	.	.	
	2.3.4.5.	4.	.	.	
	2.3.4.5.	4.	.	.	
	2.3.4.5.	4.	.	.	
	2.3.4.5.	4.	.	.	
	2.3.4.5.	4.	.	.	
	2.3.4.5.	4.	.	.	
	Field 1	Field 2	Field 3	Field 4	

Information for Completing Page 15.

1/ Use this page to describe your present swine production system to the computer. Place an X beside the items that best describe your current system.

2/ The computer model allows only one product, one management system, and one schedule to be used at any one time. It is not possible, for example, to have both farrow-finish and feeder enterprises or different groups of sows on different farrowing schedules at the same time. Therefore, use only one X to describe your Product, use only one X to describe your Management System, and use only one X to describe your Schedule of Hog Operations.

PRESENT PLAN [1/]

A. Plan Identification

Print Your Name in the Spaces below.

Card 01

0	1																		

Item	Place an X beside each item that describes your present system [2/]
	Card 02

B. Product :

Feeder Pigs	____(1)	Enter 1 X
Buy Feeder Pigs	____(2)	
Farrow-Finish	____(3)	

C. Management System

Farrow once/yr.	____(4)	Enter 1 X
Farrow 2 times/yr.	____(5)	
Farrow 4 times/yr.	____(6)	
Farrow 6 times/yr.	____(7)	
Farrow 8 times/yr.	____(8)	
Farrow every month	____(9)	
Buy 1 lot of feeders/yr.	____(10)	
Buy 2 lots of feeders/yr.	____(11)	
Buy 3 lots of feeders/yr.	____(12)	
Buy feeders bi-monthly	____(13)	
Buy feeders monthly	____(14)	

D. Scheduling Hog Operations

Enter 1 X

Farrow 2 times/yr.

Jan-July	____(15)
Feb-Aug	____(16)
Mar-Sep	____(17)
Apr-Oct	____(18)
May-Nov	____(19)
Jun-Dec	____(20)

Farrow 4 times/yr.

Jan-Apr-Jul-Oct	____(21)
Feb-May-Aug-Nov	____(22)
Mar-Jun-Sep-Dec	____(23)
Jan-Feb-Jul-Aug	____(24)
Feb-Mar-Aug-Sep	____(25)
Mar-Apr-Sep-Oct	____(26)

Card 03

Apr-May-Oct-Nov	____(1)
May-Jun-Nov-Dec	____(2)
Jun-Jul-Dec-Jan	____(3)
Jan-Mar-Jul-Sep	____(4)
Dec-Feb-Jun-Aug	____(5)

Farrow 6 times/yr.

Jan-Mar-May-Jul-Sep-Nov	____(6)
Feb-Apr-Jun-Aug-Oct-Dec	____(7)
Jan-Feb-Mar-Jul-Aug-Sep	____(8)
Feb-Mar-Apr-Aug-Sep-Oct	____(9)
Mar-Apr-May-Sep-Oct-Nov	____(10)
Apr-May-Jun-Oct-Nov-Dec	____(11)
May-Jun-Jul-Nov-Dec-Jan	____(12)

Buy 2 lots of feeders/yr.

Jan-Jul	____(13)
Feb-Aug	____(14)
Mar-Sep	____(15)
Apr-Oct	____(16)
May-Nov	____(17)
Jun-Dec	____(18)

Buy 3 lots of feeders/yr.

Jan-May-Sep	____(19)
Feb-Jun-Oct	____(20)
Mar-Jul-Nov	____(21)
Apr-Aug-Dec	____(22)

Information for Completing Page 17.

1/ Use this page to describe your first alternative plan to the computer. Place an X beside the items that best describe the alternative you want to examine.

2/ The computer model allows only one product, one management system, and one schedule to be used at any one time. It is not possible, for example, to have both farrow-finish and feeder enterprises or different groups of sows on different farrowing schedules at the same time. Therefore, use only one X to describe the Product you want to produce, use only one X to describe the Management System you want to use, and use only one X to describe the Schedule of Operations you want to use.

ALTERNATIVE 1[1/]

A. Plan Identification

LABEL Alternative 1 in the Spaces Below

Card 01																			
0	1																		

Item	Place an X beside each item that describes Alternative 1[2/]
	Card 02

B. Product :

Feeder Pigs	____(1)	Enter 1 X
Buy Feeder Pigs	____(2)	
Farrow-Finish	____(3	

C. Management System

Farrow once/yr.	____(4)	Enter 1 X
Farrow 2 times/yr.	____(5)	
Farrow 4 times/yr.	____(6)	
Farrow 6 times/yr.	____(7)	
Farrow 8 times/yr.	____(8)	
Farrow every month	____(9)	
Buy 1 lot of feeders/yr.	____(10)	
Buy 2 lots of feeders/yr.	____(11)	
Buy 3 lots of feeders/yr.	____(12)	
Buy feeders bi-monthly	____(13)	
Buy feeders monthly	____(14)	

D. Scheduling Hog Operations

Enter 1 X

Farrow 2 times/yr.

Jan-July	____(15)
Feb-Aug	____(16)
Mar-Sep	____(17)
Apr-Oct	____(18)
May-Nov	____(19)
Jun-Dec	____(20)

Farrow 4 times/yr.

Jan-Apr-Jul-Oct	____(21)
Feb-May-Aug-Nov	____(22)
Mar-Jun-Sep-Dec	____(23)
Jan-Feb-Jul-Aug	____(24)
Feb-Mar-Aug-Sep	____(25)
Mar-Apr-Sep-Oct	____(26)

Card 03

Apr-May-Oct-Nov	____(1)
May-Jun-Nov-Dec	____(2)
Jun-Jul-Dec-Jan	____(3)
Jan-Mar-Jul-Sep	____(4)
Dec-Feb-Jun-Aug	____(5)

Farrow 6 times/yr.

Jan-Mar-May-Jul-Sep-Nov	____(6)
Feb-Apr-Jun-Aug-Oct-Dec	____(7)
Jan-Feb-Mar-Jul-Aug-Sep	____(8)
Feb-Mar-Apr-Aug-Sep-Oct	____(9)
Mar-Apr-May-Sep-Oct-Nov	____(10)
Apr-May-Jun-Oct-Nov-Dec	____(11)
May-Jun-Jul-Nov-Dec-Jan	____(12)

Buy 2 lots of feeders/yr.

Jan-Jul	____(13)
Feb-Aug	____(14)
Mar-Sep	____(15)
Apr-Oct	____(16)
May-Nov	____(17)
Jun-Dec	____(18)

Buy 3 lots of feeders/yr.

Jan-May-Sep	____(19)
Feb-Jun-Oct	____(20)
Mar-Jul-Nov	____(21)
Apr-Aug-Dec	____(22)

Information for Completing Page 19.

1/ Use this page to describe a second specific alternative you want to examine or to indicate that you want the computer to find a "Good Plan" for you.

2/ If you want to examine a second specific alternative, place an X beside those items that describe the alternative you want to examine. Use only one X to describe the Product, use only one X to describe the Management System, and use only one X to describe the Schedule of Hog Operation you want to use.

If you want the computer to find a "Good Plan" place an X beside every item on page 19 that you would be willing to consider. No use inviting the computer to make calculations involving some system (e.g., "Farrow Every Month" or "Buy Feeder Pigs") that you would not be willing to employ.

ALTERNATIVE 2 OR COMPUTER PLAN[1/]

A. Plan Identification

LABEL Alternative 2 or Computer Selected Plan in the Spaces Below

Card 01																			
0	1																		

Item	Place an X beside each item that describes Alternative 2 [2/]
	Card 02
B. Product *	
Feeder Pigs	____(1)
Buy Feeder Pigs	____(2)
Farrow-Finish	____(3)
C. Management System *	
Farrow once/yr.	____(4)
Farrow 2 times/yr.	____(5)
Farrow 4 times/yr.	____(6)
Farrow 6 times/yr.	____(7)
Farrow 8 times/yr.	____(8)
Farrow every month	____(9)
Buy 1 lot of feeders/yr.	____(10)
Buy 2 lots of feeders/yr.	____(11)
Buy 3 lots of feeders/yr.	____(12)
Buy feeders bi-monthly	____(13)
Buy feeders monthly	____(14)

D. Scheduling Hog Operations *

Farrow 2 times/yr.

Jan-July	____(15)
Feb-Aug	____(16)
Mar-Sep	____(17)
Apr-Oct	____(18)
May-Nov	____(19)
Jun-Dec	____(20)

Farrow 4 times/yr.

Jan-Apr-Jul-Oct	____(21)
Feb-May-Aug-Nov	____(22)
Mar-Jun-Sep-Dec	____(23)
Jan-Feb-Jul-Aug	____(24)
Feb-Mar-Aug-Sep	____(25)
Mar-Apr-Sep-Oct	____(26)

Card 03

Apr-May-Oct-Nov	____(1)
May-Jun-Nov-Dec	____(2)
Jun-Jul-Dec-Jan	____(3)
Jan-Mar-Jul-Sep	____(4)
Dec-Feb-Jun-Aug	____(5)

Farrow 6 times/yr.

Jan-Mar-May-Jul-Sep-Nov	____(6)
Feb-Apr-Jun-Aug-Oct-Dec	____(7)
Jan-Feb-Mar-Jul-Aug-Sep	____(8)
Feb-Mar-Apr-Aug-Sep-Oct	____(9)
Mar-Apr-May-Sep-Oct-Nov	____(10)
Apr-May-Jun-Oct-Nov-Dec	____(11)
May-Jun-Jul-Nov-Dec-Jan	____(12)

Buy 2 lots of feeders/yr.

Jan-Jul	____(13)
Feb-Aug	____(14)
Mar-Sep	____(15)
Apr-Oct	____(16)
May-Nov	____(17)
Jun-Dec	____(18)

Buy 3 lots of feeders/yr.

Jan-May-Sep	____(19)
Feb-Jun-Oct	____(20)
Mar-Jul-Nov	____(21)
Apr-Aug-Dec	____(22)

* IF YOU WANT TO FIND A "GOOD PLAN" FOR YOUR FARM, PLACE AN X BESIDE EACH ITEM YOU WANT THE COMPUTER TO CONSIDER.

Information for Completing Page 21.

1/ When the hog enterprise requires additional buildings, they are built in multiples of this size.

2/ This column permits you to select those building types you want to build when adding or replacing buildings for your present plan. Place an X in the blank corresponding to those building types you want to build.

3/ Note that a dollar figure is required if you want to change the prices on individual buildings. The replacement cost figures are dollars per unit capacity. The figures include the building and the equipment necessary for its operation; for pasture systems cost of fence is included. If no changes are made, base figures will be used.

4/ One and two-litter systems do not require nursery buildings. Also, four-litter systems with farrowing evenly spaced do not require nursery buildings. For more intensive systems, portable buildings are used for nurseries only when portable buildings are also used for farrowing.

5/ Building depreciation and replacement are determined by these figures.

6/ This table is to reflect how you expect the price of buildings on page and the cash operating costs on page 31 to change during the next five years. If you think the cost of buildings will increase by five percent per year, enter 5.0 in the appropriate blank. If you expect the cash operating costs on page 31 to change during the next five years, enter your figure here.

III. MANAGEMENT FACTORS

In this section you may make changes in the data currently in the computer model. If you do not change a particular figure, the computer model will use the base figure.

A. Building Replacement

1. Size, Alternative, and Costs.

Job Performed	Type of Building	Unit Size[1]	Type to be Built for Present Plan[2]	$/Unit of Capacity Base Figure	$/Unit of Capacity Your Figure[3]
			Card 04		Card 06
Farrowing	Individual on Pasture (1-litter)	5 sows		$525.	$ ____. (1)
	Centralized Individual slotted porch	5 sows	1X ____(1)	925.	____. (2)
	Solid floor - crates	5 sows	1X ____(2)	2000.	____. (3)
	Slotted floor - crates	5 sows	1X ____(3)	2600.	____. (4)
Sow Maintenance	Portable on Pasture	5 sows	____(4)	200.	____. (5)
	Open shelter - drylot	5 sows	____(5)	250.	____. (6)
	Open shelter - partial slot	5 sows	1X ____(6)	625.	____. (7)
	Enclosed - total slot	5 sows	1X ____(7)	1050.	____. (8)
Nursery[4]	Portable	50 weanlings		XXX	XXX (9)
	Open shelter - drylot	50 weanlings	____(8)	80.	____. (10)
					Card 07
	Enclosed - total slot	50 weanlings	1X ____(9)	135.	____. (1)
Finishing	Portable on Pasture	50 market hogs	____(10)	80.	____. (2)
	Open shelter - drylot	50 market hogs	____(11)	105.	____. (3)
	Open shelter - partial slot	50 market hogs	1X ____(12)	160.	____. (4)
	Enclosed - total slot	50 market hogs	1X ____(13)	210.	____. (5)

2. Building Life[5]

Item	Years of Life Base Figure	Years of Life Your Figure
Portable buildings	10.	____. (6)
Permanent buildings	15.	____. (7)

3. Cost Trends[6]

Item	Annual % Change in Costs Base Figure	Annual % Change in Costs Your Figure
Building Replacement Cost	0.	____. (8)
Cash Operating Costs	0.	____. (9)

Information for Completing Page 23.

1/ Use this page to select those building types you want to build when adding or replacing buildings in alternative 1. Place an X in the blanks corresponding to those building types you want to construct.

PUT AN X IN THE BLANKS CORRESPONDING TO BUILDING TYPES YOU WANT TO CONSTRUCT IN ALTERNATIVE 1

A. Building Replacement 1/

1. Size, Alternatives, and Costs.

Job Performed	Type of Building	Unit Size	Type to be Built for Alternative 1 Card 04
Farrowing	Individual on Pasture (1-litter)	5 sows	
	Centralized Individual slotted porch	5 sows	1X _____(1)
	Solid floor - crates	5 sows	1X _____(2)
	Slotted floor - crates	5 sows	1X _____(3)
Sow Maintenance	Portable on Pasture	5 sows	_____(4)
	Open shelter - drylot	5 sows	_____(5)
	Open shelter - partial slot	5 sows	1X _____(6)
	Enclosed - total slot	5 sows	1X _____(7)
Nursery	Portable	50 weanlings	
	Open shelter - drylot	50 weanlings	1X _____(8)
	Enclosed - total slot	50 weanlings	1X _____(9)
Finishing	Portable on pasture	50 market hogs	_____(10)
	Open shelter - drylot	50 market hogs	_____(11)
	Open shelter - partial slot	50 market hogs	1X _____(12)
	Enclosed - total slot	50 market hogs	1X _____(13)

ONLY ONE X FOR EACH JOB OR STAGE OF PRODUCTION

Information for Completing Page 25.

1/ Use this page to select those building types you want to build when adding or replacing buildings in Alternative 2 or to indicate that you want the computer to determine what type to build.

If you decide to examine a second specific alternative, place an X in the blanks corresponding to those building types you want to construct.

If you want the computer to find a "Good Plan" place an X beside each building type that you are willing to consider.

PUT AN X IN THE BLANKS CORRESPONDING TO BUILDING TYPES YOU WANT TO CONSTRUCT IN ALTERNATIVE 2. IF YOU WANT THE COMPUTER TO FIND A "GOOD PLAN" PLACE AN X BESIDE EACH TYPE YOU WANT TO CONSIDER.

A. Building Replacement 1/

1. Size, Alternatives, and Costs.

Job Performed	Type of Building	Unit Size	Type to be Built for Alternative 2
			Card 04
Farrowing	Individual on Pasture (1-litter)	5 sows	
	Centralized Individual slotted porch	5 sows	_____(1)
	Solid floor - crates	5 sows	_____(2)
	Slotted floor - crates	5 sows	_____(3)
Sow Maintenance	Portable on Pasture	5 sows	_____(4)
	Open shelter - drylot	5 sows	_____(5)
	Open shelter - partial slot	5 sows	_____(6)
	Enclosed - total slot	5 sows	_____(7)
Nursery	Portable	50 weanlings	
	Open shelter - drylot	50 weanlings	_____(8)
	Enclosed - total slot	50 weanlings	_____(9)
Finishing	Portable on pasture	50 market hogs	_____(10)
	Open shelter - drylot	50 market hogs	_____(11)
	Open shelter - partial slot	50 market hogs	_____(12)
	Enclosed - total slot	50 market hogs	_____(13)

Information for Completing Page 27.

1/ The tables which follow summarize the feed data used as base figures in the computer model. Additional detail is provided in EC-408.

Table 2. Feed Inputs Used as Base Figures.

Job Performed and Building Type	Time eriod	Feed Components			
		Corn	Supp.	Total	
		- pounds -			lb./day
Sow maintenance					
Individual on pasture (1-litter)	8 mo.	900	130	1030	4.3
Portable on pasture	1 yr.	1340	200	1540	4.2
Open shelter - drylot	1 yr.	1400	240	1640	4.5
Open shelter - partial slot	1 yr.	1400	240	1640	4.5
Enclosed - total slot	1 yr.	1040	240	1280	3.5
Farrowing - add to maintenance requirements					
Individual on pasture (1-litter)	4 wks	203	32	235	8.4
Centralized individual - slotted porch	4 wks	188	47	235	8.4
Solid floor - crates	4 wks	143	36	179	6.4
Slotted floor - crates	4 wks	143	36	179	6.4
Nursery - 4-8 wks of age 40 lbs.					lb./pig
Individual on pasture (1-litter)	4 wks	37	10	47	47
Centralized individual - slotted porch	4 wks	33	11	44	44
Open shelter - drylot	4 wks	32	10	42	42
Enclosed - total slot	4 wks	29	15	44	44
Finishing - 40-210 lbs.					lb./cwt.
Individual on pasture (1-litter)	18 wks	532	66	598	351
Portable on pasture	18 wks	556	95	651	383
Open shelter - drylot	18 wks	558	118	676	397
Open shelter - partial slot	18 wks	558	118	676	397
Enclosed - total slot	18 wks	542	115	657	386

Table 3. Summary of Total Feed Requirements.

Item	Portable on Pasture	Enclosed - Total Slots
Feed per hog sold 2/		
Corn	715 lb. (12.8 bu.)	661 lb. (11.8 bu.)
Supplement	127 "	151 "
Total	842 "	812 "
Feed per cwt. sold		
Corn	340 lb. (6.1 bu.)	15 lb. (5.6 bu.)
Supplement	60 "	72 "
Total	400 "	387 "

(Hogs on pasture require 1/10 acre per sow and 1/30 acre per hog of good legume pasture.)

B. Feed Requirements 1/

Card 20

1. Feed requirements -- nonfinishing 2/

Base index 1.0

Your index . (1)

2. Feed requirements -- 40-210 lbs. 3/

Type of Finishing Building	Base Figures		Your Index
	Feed/Cwt. Gain	Index	
Individual of pasture (1-litter)	351	1.0	. (2)
Portable on pasture	383	1.0	. (3)
Open shelter - drylot	397	1.0	. (4)
Open shelter - partial slot	397	1.0	. (5)
Enclosed - total slot	386	1.0	. (6)

Information (continued)

2/ If feed inputs for sow maintenance, farrowing, and nursery systems in Table 2 on the left appear either high or low, you may adjust them as a group through the use of this index. If, for example, you feel it takes 10% more feed than the base figures, change this index to 1.1.

3/ The base figures are average feed requirements per cwt. of gain for feeding from 40-210 lbs. If on your farm it takes more or less feed than the base figures show, change the index accordingly. The table below will help you find the appropriate index.

Table 4. Indexes for Various Finishing Feed Conversion Rates.

Index	Individual 1-litter	Portable on Pasture	Open Drylot	Open Partial Slot	Enclosed Total Slot
			Feed/Cwt. of Gain		
.90	316	345	357	357	347
.95	333	364	377	377	367
1.00	351	383	397	397	386
1.05	369	402	417	417	405
1.10	386	421	437	437	425

Information for Completing Page 29.

1/ The base figures are litter sizes at four weeks of age. These figures are average litter sizes for sows farrowed. Because of conception problems and sow death losses, it is assumed that 10 percent or more sows than are farrowed are maintained in the sow herd. This figure is 20 percent in the 1-litter system.

2/ Unless changed by you litter size decreases by .25 per 100 sows above 100.

3/ With the exception of the 1-litter system, the base figures assume 1.5 percent death loss in the sow herd regardless of the type of building used.

4/ The nursery stage is considered to be the period from four weeks of age to eight weeks of age or 40 lbs. in weight. In the portable and pole nurseries it is assumed that the sow remains with the litter until the pigs are six-weeks old.

C. Litter Size and Mortality

1. Litter Size (pigs weaned at 4 weeks)[1/]

Card	Farrowing Building	Total Number of Sows[2/]						
		1 to 100		101 to 200	201 to 300	301 to 400	401 to 500	501 or more
		Base Figure	Your Figure					
08	Individual on pasture (1-litter)	7.0	___.(1)	___.(2)	___.(3)	___.(4)	___.(5)	___(6)
09	Centralized individual-slotted porch	8.0	___.(1)	___.(2)	___.(3)	___.(4)	___.(5)	___(6)
10	Solid floor - crates	8.5	___.(1)	___.(2)	___.(3)	___.(4)	___.(5)	___(6)
11	Slotted floor - crates	8.5	___.(1)	___.(2)	___.(3)	___.(4)	___.(5)	___(6)

2. Mortality

Job Performed	Type of Housing	Base Figure	Your Figure
		% mortality	
Sow Maintenance[3/]	Individual on pasture (1-litter)	1.0	///////
	Portable on pasture	1.5	/////
	Open shelter - drylot	1.5	/////
	Open shelter - partial slot	1.5	/////
	Enclosed - total slot	1.5	/////
			Card 12
Nursery[4/]	Individual on pasture (1-litter)	6.0	___.(1)
	Centralized individual - slotted porch	4.5	___.(2)
	Open shelter - drylot	6.0	___.(3)
	Enclosed - total slot	3.5	___.(4)
Finishing	Individual on pasture (1-litter)	2.5	___.(5)
	Portable on pasture	2.5	___.(6)
	Open shelter - drylot	1.5	___.(7)
	Open shelter - partial slot	1.5	___.(8)
	Enclosed - total slot	1.5	___.(9)

Information for Completing Page 31.

1/ These costs do not include labor, cost of corn, or building depreciation.

2/ These costs include taxes, insurance, and repairs on buildings; electricity and bedding. For other than the 1-litter system, the figures shown here assume two farrowings per year. Appropriate adjustments have already been made in the computer for four, six, and twelve farrowings. Do not adjust further for multiple use of buildings. See p. 9, EC-408.

3/ Includes protein supplement, minerals and other additives. A price of $325 per ton is assumed for 40 percent supplement and grinding at $10.00/ton.

4/ Includes marketing charges, insurance, interest, and taxes on hogs, veterinary and medicine, and pasture charged at $100 per acre. Hogs on pasture required 1/10 acre per sow and 1/30 acre per hog of good legume pasture.

5/ Important

If you feel cash costs are too high or low, adjust them accordingly by placing your new total in this column. You may change any of the figures to arrive at new totals.

Of primary interest is your cost of supplement.

If your supplement price is different than $325/T use the following formula to calculate your supplement cost.

$$\frac{\text{(Your supplement price) X (Supplement cost in table on opposite page)}}{325}$$

= your supplement cost.

6/ Important

If your total differs from the base total, you must calculate an index for this column using the following formula.

$$\frac{\text{Your Total}}{\text{Base Total}} = \text{Index}$$

Example for finishing enclosed total slot:

$$\frac{\text{Your Total}}{\text{Base Total}} = \frac{35.00}{31.91} = 1.10$$

D. Cash Operating Costs 1/

Job Performed & Bldg. Type	Time Period	Bld. Oper. 2/	Supp. 3/	Other 4/	Base Total	Your Total 5/	Index 6/
			$/sow				
Sow Maintenance							Card 21
Individual on pasture (1-litter)	1 yr.	18.38	34.21	19.90	$72.49	$_____	. (1)
Portable on pasture	1 yr.	7.00	49.98	19.90	76.88	_____	. (2)
Open shelter-drylot	1 yr.	6.25	61.19	11.48	78.92	_____	. (3)
Open shelter - partial slot	1 yr.	15.63	61.19	11.48	88.30	_____	. (4)
Enclosed-Total slot	1 yr.	36.75	59.12	12.75	108.62	_____	. (5)
Farrowing - addition to maintenance			$/sow and litter				
Individual on pasture (1-litter)	4 wks.		6.38	6.70	15.93	_____	. (6)
Centralized individual-slotted porch	4 wks.	16.19	7.32	16.94	40.45	_____	. (7)
Solid floor-crates	4 wks.	35.00	6.57	19.42	60.99	_____	. (8)
Slotted floor-crates	4 wks.	45.50	6.57	19.42	71.49	_____	. (9)
Nursery - 4-8 weeks of age			$/pig				
Individual on pasture (1-litter)	4 wks.		1.87	.51	2.38	_____	(10)
Centralized individual slotted porch	4 wks.		2.01	1.08	3.09	_____	Card 22 . (1)
Open shelter-drylot	4 wks.	1.00	1.84	.70	3.54	_____	. (2)
Enclosed-Total slots	4 wks.	2.19	2.66	1.90	6.75	_____	. (3)
Finishing - 40-210 lbs.			$/hog				
Individual on pasture (1-litter)	18 wks.		13.68	11.48	25.16	_____	. (4)
Portable on pasture	18 wks.	1.40	13.68	9.17	24.90	_____	. (5)
Open shelter-drylot	18 wks.	1.32	21.42	6.64	29.38	_____	. (6)
Open shelter - partial slot	18 wks.	2.00	21.42	6.62	30.04	_____	. (7)
Enclosed-Total slot	18 wks.	3.68	20.69	7.54	31.91	_____	. (8)

Information for Completing Page 33.

1/ The base figures for labor are estimates of total labor requirements for hog production. Sow maintenance is the work which must be performed the year round to maintain the sow herd. Farrowing labor is defined as the additional work performed to take care of sow and litter. This period is assumed to be four weeks long. Growing labor is that labor performed to bring the pigs to eight weeks of age or 40 lbs. In some systems this includes the sow for two weeks.

2/ Use this index only if you want to adjust all labor requirements by the same percentage.

3/ Maintenance, farrowing, nursery, and/or finishing labor requirements can be changed by adjusting the appropriate indices.

Table 5. Summary of Labor Requirements.

Item	Portable	Confinement Concrete Floor	Total Slot
Hours per hog sold (far. to fin.)	2.4	2.1	1.2
Hours per 40 lb. feeder pig sold	1.4	1.1	.6

E. Labor Requirement [1/]

Card 22 | con't.

1. Labor Requirement Index[2/]
   (Use only if you want to adjust all labor requirements by the same index)

   Base Index 1.0

   Your Index . (9)

2. Labor Requirements for Hog Production[3/]

Job Performed and Building Type	Units	Base Figures Hours	Base Figures Index	Your Index
				Card 23
Sow maintenance - hrs/sow for 10 months				
Individual on pasture (1-litter)	sow	4.0	1.0	. (1)
Portable on pasture	"	6.5	1.0	. (2)
Open shelter - drylot	"	6.5	1.0	. (3)
Open shelter - partial slot	"	6.5	1.0	. (4)
Enclosed - total slot	"	3.5	1.0	. (5)
Farrowing - hrs/sow/litter	sow & litter			
Individual on pasture (1-litter)		4.4	1.0	. (6)
Centralized individual - slotted porch	"	4.4	1.0	. (7)
Solid floor with crates	"	4.3	1.0	. (8)
Slotted floor with crates	"	2.4	1.0	. (9)
Nursery - hrs/pig	weanling			Card 35
Individual on pasutre (1-litter)	"	.4	1.0	. (1)
Centralized individual - slotted porch	"	.4	1.0	. (2)
Open shelter - drylot	"	.2	1.0	. (3)
Enclosed - total slot	"	.1	1.0	. (4)
Finishing - hrs/pig	market hog			
Individual on pasture (1-litter)		.9	1.0	. (5)
Portable on pasture	"	.9	1.0	. (6)
Open shelter - drylot	"	1.0	1.0	. (7)
Open shelter - partial slot	"	.6	1.0	. (8)
Enclosed - total slot	"	.6	1.0	. (9)

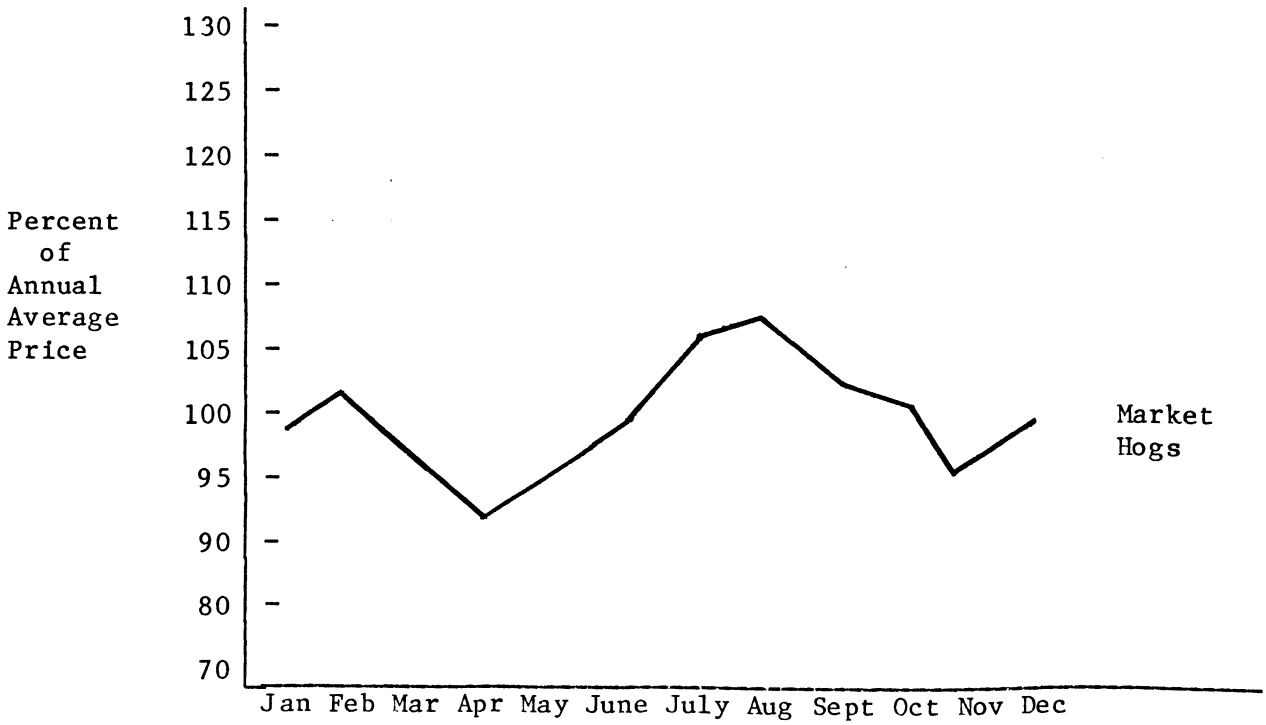
Information for Completing 35.

1/ Table 6 provides historical hog price data.

Table 6. Average Prices for Barrows and Gilts, 7 markets, 1972 - 1982.

Year	Market Hogs
1972	26.75
1973	40.62
1974	35.67
1975	48.30
1976	43.79
1977	41.43
1978	48.53
1979	42.44
1980	40.09
1981	44.38
1982	54.91

Figure 1. Seasonal Variation in Hog Prices - Average of all Barrows and Gilts at Seven Markets, 1972 - 1982.



F. Prices for Hogs 1/

Specify your expected prices.2/

Year	Feeders Pigs to Buy $/40 lb. Pig Card 18	Feeder Pigs to Sell	Market Hogs $/Cwt. Card 19
Next	$ ____.____(1)	$ ____.____(6)	$ ____.____(1)
2nd	____.____(2)	____.____(7)	____.____(2)
3rd	____.____(3)	____.____(8)	____.____(3)
4th	____.____(4)	____.____(9)	____.____(4)
5th	____.____(5)	____.____(10)	____.____(5)

G. Growth of Your Present Swine Enterprise 3/

Answer Question One or Question Two

1. If you farrow, how many sows do you now farrow? _____.
   (10% less than you breed) (÷ by .12 and enter result on page 6)

2. If you purchase feeders, what is your feeding capacity? (200# hogs in buildings at any one time) _____.
   (÷ by 1.2 and enter result on page 6)

DO NOT WRITE IN THESE SPACES

Card 27

_____(1)
_____(2)
_____(3)
_____(4)
_____(5)
_____(6)

2/ Price for selling and buying feeders should be less marketing and purchasing costs.

You must enter a selling price for feeder pigs even though you do not sell feeder pigs. This price is used to value pigs for inventory purposes.

3/ Your present plan will be budgeted for five years with no growth in the swine enterprise.

Information for Completing Page 37.

1/ Use this page for Alternative 1 to control how fast the swine enterprise will grow and how large it may get.

2/ When you record sow numbers--record 10 percent less than you expect to breed.

3/ When you record feeding capacity, think of space required for a 200 lb. hog.

G. Growth of Swine Enterprise for Alternative 1 [1]

If you farrow sows in Alternative 1, only answer the questions for Part I below.

If you purchase feeder pigs in Alternative 1, only answer the questions for Part II below.

Part I [2]

How many sows do you want to farrow next year? _____.

How many sows do you want to add in 2nd year? _____.

How many sows do you want to add in 3rd year? _____.

How many sows do you want to add in 4th year? _____.

How many sows do you want to add in 5th year? _____.

÷ each by .12 and enter results on page 6.

Part II [3]

What will your feeding capacity be next year? _____.

How much feeding capacity do you want to add in 2nd year? _____.

How much feeding capacity do you want to add in 3rd year? _____.

How much feeding capacity do you want to add in 4th year? _____.

How much feeding capacity do you want to add in 5th year? _____.

÷ each by 1.2 and enter results on page 6.

Card 27

DO NOT WRITE IN THESE SPACES

_____(1)
_____(2)
_____(3)
_____(4)
_____(5)

Information for Completing Page 39.

1/ Use this page to control how fast the swine enterprise will grow and how large it may get under Alternative 2 or to invite the computer to find a "good" size and rate of growth for your swine enterprise.

2/ When you record sow numbers--record 10 percent less than you expect to breed.

3/ When you record feeding capacity think of space required for a 200 lb. hog.

G. Growth of Swine Enterprise for Alternative 2 [1/]

If Alternative 2 is a budget of a farrowing operation, only answer the question for Part I below.

If Alternative 2 is a budget of purchasing feeder pigs, only answer the questions for Part II below.

If Alternative 2 is used to find a "Good Plan" for your farm, only answer the questions for Part III below.

Part I [2/]

How many sows do you want to farrow next year?	_____.	÷ each by .12 and enter results on page 6.
How many sows do you want to add in 2nd year?	_____.	
How many sows do you want to add in 3rd year?	_____.	
How many sows do you want to add in 4th year?	_____.	
How many sows do you want to add in 5th year?	_____.	

Part II [3/]

What will your feeding capacity be next year?	_____.	÷ each by 1.2 and enter results on page 6.
How much feeding capacity do you want to add in 2nd year?	_____.	
How much feeding capacity do you want to add in 3rd year?	_____.	
How much feeding capacity do you want to add in 4th year?	_____.	
How much feeding capacity do you want to add in 5th year?	_____.	

Part III

Card 27

Indicate the upper limit on the size of your swine enterprise in the following terms.

Number of sows farrowed (10% less than bred)	_____.	(1)
Feeding Capacity (200# hogs in buildings at any one time)	_____.	(2)

Indicate your maximum annual rate of growth in the following terms.

Number of sows added/yr. (10% less than bred)	_____.	(3)
Feeding Capacity added/yr. (200 hogs)	_____.	(4)

How large is your present swine enterprise?

Sows farrowed per year (10% less than bred)	_____.	(5)
Feeding Capacity (200# hogs in buildings at any one time)	_____.	(6)

Information for Completing Page 41.

Labor Supply and Wage Rates

In this section you will provide information concerning present labor force, additional labor you are willing to hire, and wage rates. Present labor consists of that supplied by operator(s), family, and hired men. Additional labor is paid by the hour and used only if needed.

The year is divided into 26 two-week periods. You must specify the amount of present and additional labor for each two-week period.

1/ Base figures assume one operator, one full-time man, and the possibility of hiring additional labor during planting and harvesting.

Calculation of Base Figures

Period 9 -- Apr. 23 - May 6
Operator -- 12 hrs./day X 12 days = 144 hrs.
Family -- 0 hrs./day X 12 days = 0 hrs.
Hired man -- 8 hrs./day X 12 days = 96 hrs.

Total present labor 240 hrs.

Additional labor -- 8 hrs./day X 12 days = 96 hrs.

2/ Present labor is fixed and must be paid whether it is used or not. Be sure to account for vacations for the operators and hired men by reducing time available during the time they will be gone. Also, deduct labor that will be used for enterprises other than hogs, corn, and soybeans.

3/ Indicate how much additional labor you are willing to hire. The computer will use and pay for this labor only if it is needed. Zeros in this column mean you will hire no part-time help.

4/ When specifying amount paid to present labor, do not include the operator. His (their) compensation will be provided for in the family living expense on page 47. Specify wages at the rate you expect to pay in the near future.

I. LABOR AVAILABILITY FOR SWINE, CORN, AND SOYBEANS.

Time Period	Two-Week Period Beginning	Base Figures[1] Present Labor/ Period	Base Figures[1] Maximum Additional Labor/Period	Your Figures Present Labor/ Period[2]	Your Figures Maximum Additional Labor[3]
			-- hours --	Card 25	Card 26
1	Jan. 1	192	0	(1)	(1)
2	Jan. 15	192	0	(2)	(2)
3	Jan. 29	192	0	(3)	(3)
4	Feb. 12	192	0	(4)	(4)
5	Feb. 26	192	0	(5)	(5)
6	Mar. 12	192	0	(6)	(6)
7	Mar. 26	240	96	(7)	(7)
8	Apr. 9	240	96	(8)	(8)
9	Apr. 23	240	96	(9)	(9)
10	May 7	240	96	(10)	(10)
11	May 21	240	96	(11)	(11)
12	June 4	240	96	(12)	(12)
13	June 18	240	96	(13)	(13)
14	July 2	192	0	(14)	(14)
15	July 16	192	0	(15)	(15)
16	July 30	192	0	(16)	(16)
17	Aug. 13	192	0	(17)	(17)
18	Aug. 27	192	0	(18)	(18)
19	Sep. 10	240	96	(19)	(19)
20	Sept. 24	240	96	(20)	(20)
21	Oct. 8	240	96	(21)	(21)
22	Oct. 22	240	96	(22)	(22)
23	Nov. 5	240	96	(23)	(23)
24	Nov. 19	240	96	(24)	(24)
25	Dec. 3	192	0	(25)	(25)
26	Dec. 17	192	0	(26)	(26)

II. WAGE RATES[4]

Card 13

Item	Base Figure	Your Figure
Total annual payment for present labor (Family and hired men)	$ 0	$. (1)
Wages per hour for additional labor	$ 4.50	$. (2)

Information for Completing Page 43.

1/ It is assumed that loan payments are due one year from date of loan and that all payments are made as they become due.

2/ In the computer model all cash expenses (e.g., supplements, repairs, seed, fertilizer, etc.) are paid as soon as they are incurred. A 90-day loan is used to provide short-term operating capital when cash is not available in amounts adequate to meet current requirements. The 90-day loan must be repaid in three months. This short-term debt can, however, be refinanced by subsequent 90-day loans.

3/ Type 1 - 30 year repayment - equal annual payments
Type 2 - 20 year repayment - equal annual payments
Type 3 - 10 year repayment - equal annual payments
Type 4 - 5 year repayment - equal annual payments
Type 5 - 3 year repayment - equal annual payments

4/ Short-term capital is not included in the calculation of the debt/asset ratio or total debts.

Unless you enter your figures here, the base figures will be used as debt limits for your farm.

5/ Be sure your debt limits are higher than your current debts.

6/ The base figure is .5, which means total debt cannot exceed 50 percent of total assets. If you are willing to permit a higher percent or want to insure a lower percent debt, you can do so by changing this figure.

Financial Considerations

In this section you will provide information on your current level of indebtedness, the cost of additional capital, the amount you are willing to borrow, and the like. For current debts you will need to specify the amount of debt and annual payments for principal and interest over the next five years. For debts to be incurred in the process of developing a plan for your situation you only need to specify the interest rate, the down payment, and the type of loan to be used. Three, five, ten, twenty, and thirty year loans are available for land, buildings, machinery, and breeding stock.[1/]

I. INTEREST RATES AND DOWN PAYMENTS ON LOANS MADE BY THE COMPUTER

Loan		Base Figures		Your Figures	
Type	Length	Interest Rate	Down Payment	Interest Rate	Down Payment
		%	(Decimal)	%	(Decimal)
				Card 13 con't.	Card 33
1	30 year	13.0	0.0	. (3)	. (1)
2	20 year	13.0	0.0	. (4)	. (2)
3	10 year	14.0	0.0	. (5)	. (3)
4	5 year	14.0	0.0	. (6)	. (4)
5	3 year	14.0	0.0	. (7)	. (5)
	Short Term[2/]	15.0	0.0	. (8)	

II. REPAYMENT PERIOD FOR LOANS MADE BY COMPUTER[3/]

Loan Purpose	Loan Type	
	Base Type	Your Type
		Card 33 cont'.
Land	1	. (6)
Swine Buildings	3	. (7)
Machinery	5	. (8)
Breeding Stock	5	. (9)

III. LIMITS ON INDEBTEDNESS

If you want to place an upper limit on the amount of debt, do so by specifying the upper limit in terms of dollars and/or by adjusting the maximum debt/asset ratio.

	Base Figures		Your Figures[4/]	
Type of Debt	Upper Limit on Debt	Max. Debt/ Asset Ratio	Upper Limit on Debt[5/]	Max. Debt/ Asset Ratio[6/]
			Card 28	
All debts	$1,000,000	.5	$. (1)	. (5)
Long-term debt	1,000,000		. (2)	
Intermediate term debt (1-9 years)	1,000,000		. (3)	
Short term	1,000,000		. (4)	

Information for Completing Page 45.

1/ Calculate the outstanding balance on long term (10 years or more) and intermediate term (1-9 years) loans which you now have. Now is January 1 this year or next year, whichever is your starting point. Then calculate the remaining principal balance on these debts for the next four years.

2/ Indicate the annual payments (principal and interest) you will be making on these loans over the next five years.

3/ On pages 9 and 53 you list the resources you have available for hog and crop production. To adequately reflect your financial position, you will have to estimate the inventory value of these other assets.

4/ Estimate the cash value of off-farm assets such as stocks, bonds, real estate, etc.

5/ Estimate the cash value of crop inventories other than corn (include growing crops).

6/ Include here debts that will be paid off in less than a year. It should not be part of the 1-9 year debt referred to under note 1.

7/ Indicate the amount of corn you have in storage. The computer model will place a value on it.

IV. CURRENT INDEBTEDNESS AND DEBT PAYMENTS

Year	1-9 Year Debt		Long-Term Debt	
	Amount Outstanding[1]	Annual Payment Prin. and Int.[2]	Amount Outstanding[1]	Annual Payment Prin. and Int.[2]
	Card 30		Card 29	
Next	$_____. (1)	$_____. (6)	$_____. (1)	$_____. (6)
2nd	_____. (2)	_____. (7)	_____. (2)	_____. (7)
3rd	_____. (3)	_____. (8)	_____. (3)	_____. (8)
4th	_____. (4)	_____. (9)	_____. (4)	_____. (9)
5th	_____. (5)	_____. (10)	_____. (5)	_____. (10)

V. INVENTORY (excluding swine, swine buildings, land, and field equipment).[3]

1. Other Assets	Inventory Value
Livestock (exclude swine)	$_____
Farm Buildings (exclude swine buildings)	_____
Equipment (exclude that listed on pp. 49 and 51).	_____
Seed, Fertilizer, etc.	_____
Dwellings	_____
Off-farm Investment[4]	_____

NO CARD NUMBER NEEDED

Total Other Assets (Sum of Values Listed Above)

2. 26. 0. $_____.

2. Cash Balance

Cash on hand (savings and checking)	$_____
Cash Value of crop inventory other than corn[5]	_____
Cash Value of pigs less than 40	_____
- Short term debt[6]	- _____

Cash Balance [Cash on hand plus cash value of pigs & stored crops (except corn) minus short-term debt]

1. 26. 0. $_____.

Corn Inventory (bushels)[7]

1. 25. 0. _____. bushels

Field 1 | Field 2 | Field 3 | Field 4

Information for Completing Page 47.

1/ To provide you with a more realistic projection of cash flow, it is necessary for you to provide the cash receipts and expenses you expect from enterprises other than hogs, corn, and soybeans and off-farm income. Provide totals each season of the year.

2/ Taxable income is divided by the number of operators before calculating the amount of tax. If your business is a Sub-Chapter "C" Corporation, record a "0" in this spot and the computer will calculate an estimate of the corporation's tax liability. If yours is a partnership or a Sub-Chapter "S" Corporation, record the number of operators. If you are an individual decision-maker concerned with the possible addition of the hog business to your income from sources not included here, record your tax bracket (e.g. 22, 30, 40, 70 percent) for non-farm income. A 999 here will result in zero income tax.

3/ The first two columns of this table allow you to specify the amount you want to withdraw annually from the income of your farm for living expenses. If you want to withdraw specific amounts each year regardless of your net income level, indicate those amounts in the first column and put zeroes in the second column. If you want your consumption withdrawals to vary with your level of income, indicate amounts in the first column which you consider to be minimums for living expenses and indicate the portion of positive net income over and above this amount which you want to consume. Suppose, for example, that $5000 is the minimum amount for living expenses and that in high income years you want to withdraw an additional 25 percent of your net income. Then you would enter $5000 in the first column and .25 in the second column. Then, if in that year your net income was $10,000, your consumption withdrawal would be $5000 + .25 ($10,000) = $7,500. If your net income in that year was zero or negative, consumption withdrawals would be the $5000 minimum amount you specified. Net income is defined as income after taxes and minimum living expense.

4/ If you want to invest in other farm enterprises or off-farm enterprises using income generated by the hog and field crop enterprises, enter the amount in this column. If you don't want income earned from these other investments to be available for expansion of the hog enterprise, that income must be entered here.

5/ Enter the total number of Federal Income Tax exemptions for all operators.

Other Cash Transactions

The amount of funds you have available each year for re-investment depends not only on the profitability of your farming operation. Important factors in determining the amount to be re-invested in the farm are the amounts you withdraw for living expenses, income taxes, off-farm investment and the like.

I. OTHER CASH RECEIPTS AND EXPENSES[1/]

Time of Year	Cash Receipts	Cash Expenses
	Card 14	
Spring	$_____. (1)	$_____. (5)
Summer	_____. (2)	_____. (6)
Fall	_____. (3)	_____. (7)
Winter	_____. (4)	_____. (8)

II. INCOME TAX CALCULATION[2/] Card 14 cont.

Among how many operators is income divided before tax? _____. (9)

III. CONSUMPTION AND INVESTMENT

Year	Operators[3]	Portion of Positive Net Income Consumed[3] (decimal)	Addition to Farm Enterprises (other than hogs) and Off-Farm Investment[4]	Total Number of Exemptions For All Operators[5]
	Card 31		Card 32	
Next	$_____. (1)	_____. (6)	$_____. (1)	_____. (6)
2nd	_____. (2)	_____. (7)	_____. (2)	_____. (7)
3rd	_____. (3)	_____. (8)	_____. (3)	_____. (8)
4th	_____. (4)	_____. (9)	_____. (4)	_____. (9)
5th	_____. (5)	_____. (10)	_____. (5)	_____. (10)

Crop Production Decisions

In this section you will: (1) list the resources you have available for crop production, (2) select a tillage system and (3) have the opportunity to change some of the data in the computer model.

Corn and soybeans are the only crops permitted in the computer model. They are considered the representative crops. Crop acreages can be no greater than the acreage specified on page 53. The alternatives of dropping currently rented land and renting out your owned land are, however, included in the computer model.

Data on machinery for crop production are presented in the "Machinery and Equipment Coefficients" supplement. These figures cannot be changed except for replacement costs and soil draft which may be adjusted. The "machine replacement cost" index (page 61) will allow you to adjust the general level of machinery prices upward or downward but will not allow replacement costs for individual items to be changed.

The "soil draft" index (page 59) will allow you to adjust soil draft figures for soil type on your farm.

Information for Completing Pages 49 & 51.

1/ Identify each item of tillage and planting machinery you have on your farm. An example table is provided below.

2/ If you have more than one of a particular item, enter the number of such items in column headed "No." You must also enter the year each item was new in column headed "Years New." See example for Planter-Conventional.

Example:

Table 7. Example Table for Machinery.

Name of Item	Size	No.	Size Code	Item Code	Years New
Plow	6-16"	1	8.	5.	1979
Disc	20'	1	7.	6.	1980
Planter-Conventional	4-row	2	2.	8.	1981,1978

A. Tillage and Planting Machinery

NO CARD NUMBERS NEEDED

Item	Size	No.[2]	Size Code	Item Code	Years New[2]
Plow	3-14"	____	1.	5.	____.
	3-16"	____	2.	5.	____.
	4-14"	____	3.	5.	____.
	4-16"	____	4.	5.	____.
	5-16"	____	5.	5.	____.
	6-16"	____	6.	5.	____.
	7-16"	____	7.	5.	____.
	8-16"	____	8.	5.	____.
	9-16"	____	9.	5.	____.
	10-16"	____	10.	5.	____.
Disc	12'	____	1.	6.	____.
	14'	____	2.	6.	____.
	16'	____	3.	6.	____.
	18'	____	4.	6.	____.
	20'	____	5.	6.	____.
	22'	____	6.	6.	____.
	24'	____	7.	6.	____.
	28'	____	8.	6.	____.
	32'	____	9.	6.	____.
	40'	____	10.	6.	____.
Field Cultivator	15'	____	1.	10.	____.
	20'	____	2.	10.	____.
	30'	____	3.	10.	____.
	35'	____	4.	10.	____.
NH_3	12.5'	____	1.	12.	____.
	17.5'	____	2.	12.	____.
	22.5'	____	3.	12.	____.

NO CARD NUMBERS NEEDED

Item	Size	No.[2]	Size Code	Item Code	Years New[2]
Chisel	10'	____	1.	15.	____.
	15'	____	2.	15.	____.
	20'	____	3.	15.	____.
	25'	____	4.	15.	____.
	30'	____	5.	15.	____.
	35'	____	6.	15.	____.
Row Cultivator	4 row	____	1.	18.	____.
	6 "	____	2.	18.	____.
	8 "	____	3.	18.	____.
	12 "	____	4.	18.	____.
	16 "	____	5.	18.	____.
	24 "	____	6.	18.	____.

Field 1	Field 2	Field 3

THIS PAGE SHOULD BE BLANK.

A. Tillage and Planting Machinery (continued) 1/

NO CARD NUMBERS NEEDED	Item	Size	No. 2/	Size Code	Item Code	Years New 2/
	Conventional Planter	4 row		1.	8.	.
		6 "		2.	8.	.
		8 "		3.	8.	.
		12 "		4.	8.	.
		16 "		5.	8.	.
		24 "		6.	8.	.
	No-Till Planter	2 row		1.	13.	.
		4 "		2.	13.	.
		6 "		3.	13.	.
		8 "		4.	13.	.
		12 "		5.	13.	.
	Chisel Planter	4 row		1.	16.	.
		6 "		2.	16.	.
		8 "		3.	16.	.
		12 "		4.	16.	.
						.

B. Tractors and Combines 1/

NO CARD NUMBERS NEEDED	Item	Size	No. 2/	Size Code	Item Code	Years New 2/
	Tractor	60 HP		1.	21.	.
		80 HP		2.	21.	.
		100 HP		3.	21.	.
		120 HP		4.	21.	.
		150 HP		5.	21.	.
		180 HP		6.	21.	.
		225 HP		7.	21.	.
		250 HP		8.	21.	.
		275 HP		9.	21.	.
		300 HP		10.	21.	.
	Combine	2 row		1.	22.	.
		3 "		2.	22.	.
		4 "		3.	22.	.
		6 "		4.	22.	.
		8 "		5.	22.	.
		12 "		6.	22.	.
						.
				Field 1	Field 2	Field 3

Information for Completing 53.

1/ Market value of owned land for agricultural purposes.

2/ Annual cost per acre. For owned land this refers to real estate taxes and land maintenance costs (tile, etc). For cash rented land, enter the annual per acre rent. For cropshare rental, the computer model assumes the following rental arrangement: a 50-50 split between landlord and tenant on the crop, seed, fertilizer, and chemicals.

3/ Enter your average yield/acre for corn and soybeans.

4/ The figure used here should be the proportion of total acres available for production of corn and soybeans that you want in soybeans. If 25 percent of your row crop land (owned, cash rented, and share rented) is in soybeans, enter .25 in this blank.

5/ Use an annual average price for corn. Your expected corn price, adjusted seasonally by the computer, is used as the sale price if corn is sold and the buying price when corn production is insufficient to meet feeding requirements. Corn prices must be specified even if you are not producing corn. Soybeans are sold at harvest, therefore, enter a cash price for soybeans at harvest.

Describe Your Present Cropping Plan Below

C. Land

NO CARD NUMBER NEEDED	Tenure				No. of Acres	Value/ Acre[1]	Annual Cost Acre[2]
						Card 15	
	Owned						
	Rowcrop	1.	24.	0.	.	$. (1)	$. (3)
	Other	9.	24.	0.	.	. (2)	. (4)
	Rented Rowcrop Land						
	Cash	7.	24.	0.	.		. (5)
	Share	8.	24.	0.	.		

Field 1 | Field 2 | Field 3 | Field 4

Sum of owned rowcrop, cash rented, and share rented acres _____

Total acres of corn and/or soybeans _____ . (6)

II. MANAGEMENT FACTORS

A. Crop Yields [3]

Crop	Bushel Per Acre	
	Base Figure	Your Figure
Corn	115	. (7)
Soybeans	40	. (8)

B. Portion of Land in Soybeans [4]

	(Decimal)
Base Figure	0.0
Your Figure	. (9)

C. Crop Prices [5]

Specify your expected prices.

Year	Price Per Bushel	
	Corn Annual Average	Soybeans Price at Harvest
	Card 17	
Next	$. (1)	$. (6)
2nd	. (2)	. (7)
3rd	. (3)	. (8)
4th	. (4)	. (9)
5th	. (5)	. (10

Information for Completing Page 55

1/ You may want to investigate the possibility of renting or buying more land.

2/ To rent more land, add the number of additional acres that you want to rent to the figures that you recorded on page 52 and enter the total in the appropriate blank here.

3/ Computer assumes all tillable land is planted to corn and/or soybeans.

4/ To buy more land, write in the number of acres you want to purchase. The computer model will purchase land in multiples of 80 acres only. Therefore, you should make land to be purchased some multiple of 80 acres. The computer will finance the land purchase according to your specifications on page 43.

5/ If you want to rent out your owned row crop land and not produce any crops, put a 0 in this blank. The computer will rent your cropland for six percent of its value.

DESCRIBE YOUR PRESENT CROPPING PLAN FOR ALTERNATIVE 1.[1]

C. Land

NO CARD NUMBER NEEDED	Tenure				No. of Acres	Value/ Acre	Annual Cost Acre
						Card 15	
	Owned						
	Rowcrop	1.	24.	0.	_____.	$_____. (1)	$_____. (3)
	Other	9.	24.	0.	_____.	$_____. (2)	$_____. (4)
	Rented Rowcrop Land[2]						
	Cash	7.	24.	0.	_____.		$_____. (5)
	Share	8.	24.	0.	_____.		

Field 1 | Field 2 | Field 3 | Field 4

Sum of owned rowcrop, cash rented, and share rented acres[3] _____

Acres of rowcrop land you want to purchase[4] _____

Total acres of corn and soybeans[5] _____. (6)

II. MANAGEMENT FACTORS

A. Crop Yields

Crop	Bushel Per Acre	
	Base Figure	Your Figure
Corn	115	_____. (7)
Soybeans	40	_____. (8)

B. Portion of Land in Soybeans

	(Decimal)
Base Figure	0.0
Your Figure	_____. (9)

Information for Completing Page 57.

1/ You may want to investigate the possibility of renting or buying more land.

2/ To rent more land, add the number of additional acres that you want to rent to the figures that you recorded on page 52 and enter the total in the appropriate blank here.

3/ Computer assumes all tillable land is planted to corn and/or soybeans.

4/ To buy more land, write in the number of acres you want to purchase. The computer model will purchase land in multiples of 80 acres only. Therefore, you should make land to be purchased some multiple of 80 acres. The computer will finance the land purchase according to your specifications on page 43.

5/ If you want to rent out your owned row crop land and not produce any crops, put a 0 in this blank. The computer will rent your cropland for six percent of its value.

DESCRIBE YOUR CROPPING SYSTEM FOR ALTERNATIVE 2

OR COMPUTER SELECTED PLAN[1/]

C. Land

Tenure				No. of Acres	Value/ Acre	Annual Cost Acre
					Card 15	
Owned						
Rowcrop	1.	24.	0.	.	$. (1)	$. (3)
Other	9.	24.	0.	.	$. (2)	$. (4)
Rented Rowcrop Land[2/]						
Cash	7.	24.	0.	.		$. (5)
Share	8.	24.	0.	.		

Field 1 | Field 2 | Field 3 | Field 4

Sum of owned rowcrop, cash rented, and share rented acres[3/] _____

Acres of rowcrop land you want to purchase[4/] _____

Total Acres of corn and soybeans[5/] . (6)

II. MANAGEMENT FACTORS

A. Crop Yields

Crop	Bushel Per Acre	
	Base Figure	Your Figure
Corn	115	. (7)
Soybeans	40	. (8)

B. Portion of Land in Soybeans

(Decimal)

Base Figure 0.0

Your Figure . (9)

Information for Completing Page 59.

1/ You have a choice among ten tillage systems. Only one system is permitted at any one time. Mark the system you use with an X.

2/ For the conventional system, you can specify the amounts of land to be fall and spring plowed. If, for example, your land is of a type which requires spring plowing, then mark all spring plow with an X.

3/ The tillage systems assume the following operations:

Conventional -- Disc stalks -- fall
-- Plow and NH_3 -- spring or fall

-- Disc twice -- spring
-- Conventional planter

Plow and Field Cultivate
-- Disc stalks -- fall
-- Plow and NH_3 --fall

-- Field cultivate and plant

Chisel Planting
-- Disc stalks -- fall
-- Chisel plow and NH_3 -- fall

-- Chisel plant

No-Tillage Planting
-- Knife down NH_3 -- fall

-- Disc -- spring
-- No-Till planter

Card 05

Do Not Write In This Blank _____(1)

D. Tillage System

1. Alternative Tillage Systems[1/]

Tillage System[2/3/]	Place an X Beside the Tillage System You Use. (Mark Only One)	
Conventional --- All Fall Plow	_____(2)	
" 3/4 Fall - 1/4 Spring Plow	_____(3)	
" 1/2 " - 1/2 " "	_____(4)	
" 1/4 " - 3/4 " "	_____(5)	
" All Spring Plow	_____(6)	ONLY
Field Cultivate - All Fall Plow	_____(7)	1X
" " 3/4 Fall - 1/4 Spring Plow	_____(8)	
" " 1/2 " - 1/2 " "	_____(9)	
Fall Chisel -- Chisel Plant	_____(10	
No-tillage planting	_____(11	

E. Soil Draft Index

The computer model uses soil draft figures to match tractors with machines. The soil draft figures in the model assume medium textured soils. If your land is either heavier or lighter than this, put your index in the appropriate space.

Card 16

Soil Type	Index	Your Index
Heavy	1.5	
Medium	1.0	____.___(1)
Light	.5	

(You may use an index such as .7 or 1.2 if you want to)

Information for Completing Page 61.

1/ This index allows you to adjust the level of machinery prices. The list prices used by the model can be found in the "Machinery and Equipment Coeffients" supplement. If you consider these prices to be too high or too low, you may adjust them by changing the machine replacement cost index. Base index assumes farm price is 85 percent of list price.

2/ The computer model calculates machinery costs. The data used for these calculations were obtained primarily from the Corn Production and Marketing Workshop Handbook. Fuel, lubrication, and repair costs depend on the original price and use of each machine. Depreciation depends upon the replacement cost and age of each machine, and is calculated using a method very similar to the declining balance method.

3/ Use this to adjust costs of machinery and cash operating costs for inflation. If you think machinery costs are going to increase at the rate of five percent per year, enter 5.0 in the appropriate blank.

F. Machine Replacement

Card 16 con't.

Machine Replacement Cost Index[1/]

Base Index .85

Your Index ____.____(2)

G. Cropping Inputs and Costs

1. Cropping Costs

Item			Corn	Soybeans
Fertilizer	Nitrogen	Base Figure	$ .29 /Bushel	$ .00 /Bushel
		Your Figure	$ ____.____(3)	$ ____.____(7)
	P,K, etc.	Base Figure	$ 28.00 /Acre	$ 30.00 /Acre
		Your Figure	$ ____.____(4)	$ ____.____(8)
Herbicide and Insecticide		Base Figure	$ 13.00 /Acre	$ 21.00 /Acre
		Your Figure	$ ____.____(5)	$ ____.____(9)
Seed		Base Figure	$ 17.00 /Acre	$ 14.00 /Acre
		Your Figure	$ ____.____(6)	$ ____.____(10)

2. Machinery Costs

Costs associated with machinery are all fixed within the computer model. You have no opportunity to change these at these time.[2/]

3. Drying, Handling, and Storage Costs

Costs associated with handling, drying, and storage of corn are fixed also. For corn, drying and handling is $15.00 per 100 bushels harvested and storage is $1.50 per 100 bushels per two-week period stored. It is assumed that soybeans are sold at harvest.

H. Cost Trends

Item	Annual % Change in Costs	
	Base Figure	Your Figure
	Card 34	
	%	%
Machine Replacement Cost	0.0	____.____(1)
Cash Operating Costs (Machinery, Fertilizer, Seed, and Chemicals)	0.0	____.____(2)

Information for Completing Page 63.

1/ The weather data which provide the basis for the "Base Figures" are the same as those used in the Purdue Crop Workshop. Machine days per period is the estimate of the number of days per period on which conditions are suitable for field work (assuming no work on Sunday). Seventy-five percent of the years would have more machine days per period than the base figures indicate. This "bad weather data" forces the computer to purchase enough equipment so that crop operations are timely under adverse weather conditions.

The data on machine hours per period are used to determine if the necessary field operations can be performed in the time available. If not, larger and/or additional equipment is purchased to get the job done.

The computer model is constructed so that spring field operations occur only in periods 7 through 12. Corn is planted in periods 9, 10, and 11 and harvested in periods 20, 21, 22, 23, and 24. Soybeans are planted during periods 10, 11, and 12 and harvested in periods 19, 20, and 21. Fall plowing is done in periods 23, 24, and 25.

2/ If you feel the base figures describe your situation adequately, you may leave these columns blank.

If for some reason you do not agree with the base figures, you may change any or all of the figures but you cannot change the timing of operations as described in note.1/

Example:

If you think you are able to combine corn 12 rather than 10 hours per day in period 20, enter your figures as follows for period 20:

12	6.6	79	(20)

III. TIME AVAILABLE FOR FIELD WORK

Card 24

Time Period	Calendar Date	Base Figures[1] Hours/ Day	Base Figures[1] Machine Days/Period	Base Figures[1] Machine Hours/Period	Your Figures[2] Hours Day	Your Figures[2] Machine Days/Period	Your Figures[2] Machine Hours/Period
1	Jan. 1	0	C	0			(1)
2	Jan. 15	0	0	0			(2)
3	Jan. 29	0	0	0			(3)
4	Feb. 12	0	0	0			(4)
5	Feb. 26	0	0	0			(5)
6	Mar. 12	0	0	0			(6)
7	Mar. 26	9	3.7	33			(7)
8	Apr. 9	9	4.4	40			(8)
9	Apr. 23	12	4.4	53			(9)
10	May 7	12	5.4	65			(10)
11	May 21	12	6.6	79			(11)
12	June 4	12	6.6	79			(12)
13	June 18	12	6.6	79			(13)
14	July 2	12	6.6	79			(14)
15	July 16	12	6.6	79			(15)
16	July 30	12	6.6	79			(16)
17	Aug. 13	12	6.6	79			(17)
18	Aug. 27	12	6.6	79			(18)
19	Sep. 10	12	6.6	79			(19)
20	Sep. 24	10	6.6	66			(20)
21	Oct. 8	10	7.2	72			(21)
22	Oct. 22	9	6.8	61			(22)
23	Nov. 5	7	6.6	46			(23)
24	Nov. 19	7	5.4	38			(24)
25	Dec. 3	7	4.3	30			(25)
26	Dec. 17	0	0	0			(26)

COMPUTERIZED PLANNING FOR SWINE FARM

Overview of a Simulation Model

MODEL DEVELOPMENT

Iniators

Eisgruber

Kadlec

Graduate Students

Lee -- Conceptual Model

Sonntag -- Empirical Model

Lines -- Extension Model

MODEL DESCRIPTION

PURPOSE --- EXAMINE AND COMPARE

1. CONTINUE PRESENT PLAN
2. A SPECIFIC CHANGE
3. A "GOOD" PLAN

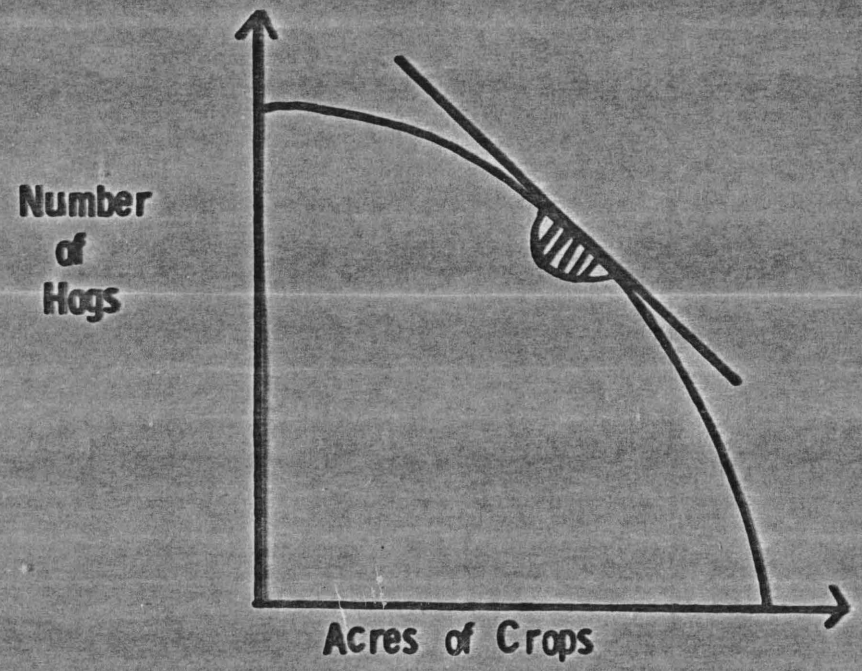
PROBLEMS

1. SIZE AND GROWTH
2. BUILDING SELECTION
3. SCHEDULING
4. ENTERPRISE SELECTION
5. "WHAT IF" QUESTIONS

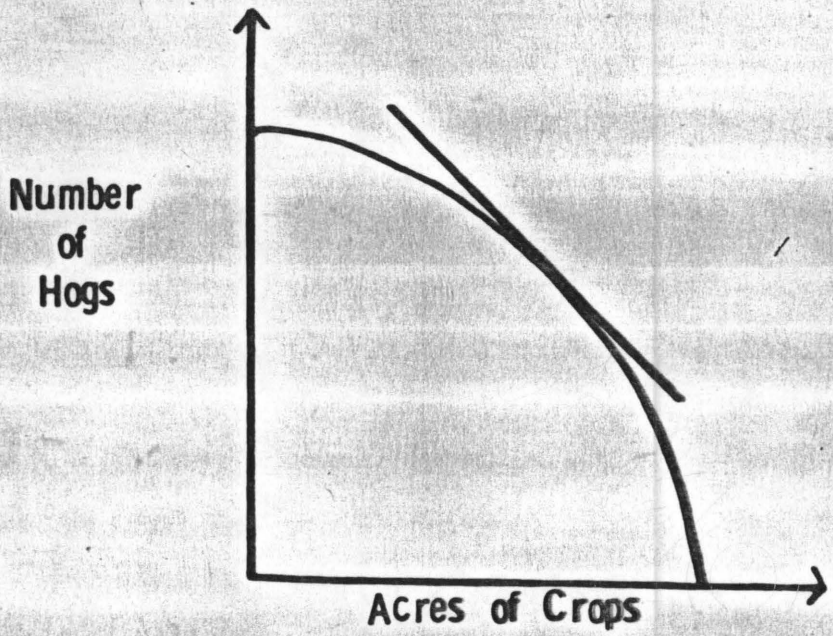
MODES OF OPERATION

BUDGETING

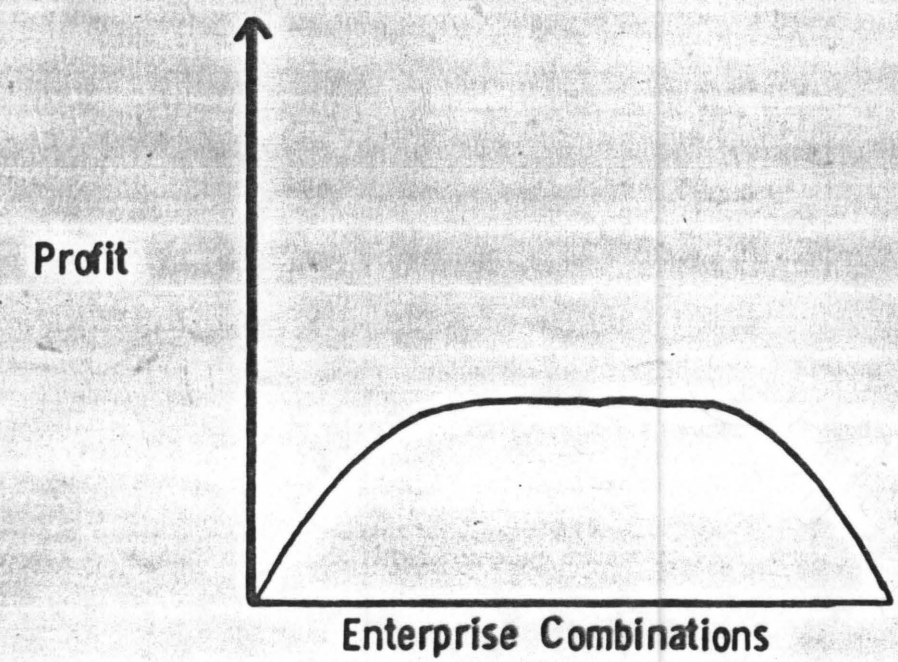
OPTIMIZING


Simulation Result
(Near-Optimal)
Number
of
Hogs
Acres of Crops

THEORETICAL FOUNDATION



Optimum Combination of Products



Eisgruber Income Stability Hypothesis

USER ATTITUDES

ABLE TO DESCRIBE FARM	11
RESULTS HELPFUL	12
NOT TOO COMPLEX	12
MORE PRODUCERS USE	13
USE AGAIN	14
WORTH $50	14
REASONABLE PROJECTION	12

STATEMENT SCORE

0 --- NEGATIVE

8 --- INDIFFERENT

16 -- POSITIVE

COMPUTER PRINTOUT

THREE PARTS

COMPARISON OF PLANS

ANNUAL SUMMARIES

ANNUAL DETAIL

SCRUTINY BY EXPERTS

STATE SPECIALISTS

FARM MANAGEMENT

ANIMAL SCIENCE

AGRICULTURAL ENGINEERING

EXTENSION FIELD STAFF

SWINE PRODUCERS

USE OF MODEL

SUCCESSFULLY USED IN WORKSHOPS
(OHIO AND INDIANA)

LIMITED ACCEPTANCE ELSEWHERE

COMPLEXITY

NOT FOOL-PROOF

TIME TO LEARN DETAILS

FUTURE DEVELOPMENTS

REDUCE COMPLEXITY

ELIMINATE CROPS

RETAIN DECISION POWER

MORE FOOL-PROOF

MORE USABLE

EMPIRICAL TESTING

THEORETICAL PERFORMANCE

EMPIRICAL PERFORMANCE

REAL-WORLD PERFORMANCE

THE MODEL

1. SUPPORTED INCOME STABILITY HYPOTHESIS
2. IDENTIFIED AND REJECTED LOW PROFIT PLANS
3. IDENTIFIED AND SELECTED PLAN FROM SET OF "GOOD" PLANS

PROGRAM

1. TRAINING PROFESSIONALS
2. FARM CREDIT
3. ESTATE PLANNING
4. COMPUTERIZED DECISION AIDS
5. TAX WORKSHOPS
6. ENTERPRISE MANAGEMENT
7. FARM RECORDS
8. RESOURCE CONTROL

DELIVERY SYSTEM

(AREA AGENTS AND STATE SPECIALISTS)

1. IDENTIFY PROBLEMS
2. SELECT PROBLEM OF INTEREST
3. DEVELOP MATERIALS
4. REVIEW MATERIALS
5. IN-SERVICE TRAINING
   - A. AREA AGENTS
   - B. COUNTY AGENTS
6. WORKSHOPS AND MEETINGS
   - COUNTY
   - AREA
   - STATE
7. EVALUATION

OHIO FARM MANAGEMENT EXTENSION

ORGANIZATION

COORDINATION — PROGRAM LEADER — T. Jones

ADMINISTRATION — DEPARTMENT HEAD — D. Boyne

ADMINISTRATION — AREA SUPERVISORS — 10

SUBJECT MATTER — DEPARTMENT HEAD — D. Boyne

SUBJECT MATTER — STATE SPECIALISTS — J. Moore
A. Lines
N. Rask
R. Duvick

PROGRAM DEVELOPMENT AND IMPLEMENTATION — STATE SPECIALISTS

PROGRAM DEVELOPMENT AND IMPLEMENTATION — AREA AGENTS

K. Clemons	H. Crown
P. Wright	D. Miller
H. Showalter	D. Moore
J. Howell	J. Polson
D. Acker	W. Smith

EVALUATION

VERY STRONG PROGRAM

DEPENDENT ON 10 VERY CAPABLE AREA AGENTS

ADMINISTRATIVE SUPPORT VERY POSITIVE

PROGRAM BELONGS TO THOSE IT SERVES